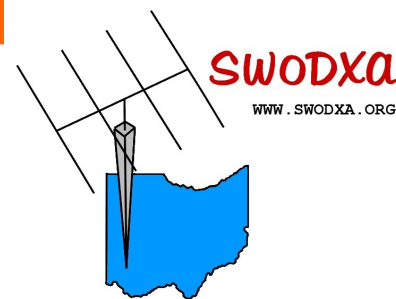




Volume 5, Issue 2

11/2021

the exchange



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The Prez says....Tom, NR8Z

I’m writing this the weekend of the CQWW SSB. I was encouraged to see so many hams traveling to put DXCC entities on the air this year in the contest, a nice break from the past 18 months. With the SFI in triple digits 10 meters is open and the forecast CME hasn’t ruined propagation significantly. Hopefully you enjoyed the improved conditions and your multiplier count is up.

We are trying out a new location for our monthly meetings, Hunter Pizzeria, 4165 Route 122 in Franklin, OH. It is a couple of miles East of I-75 off the Middletown exit. The location is nicely central to the distribution of our members, but there are some bugs to work out before we make it an on-going location for our meetings. So come to the November meeting, check out the place and we’ll make a decision about whether we continue to meet there or we go somewhere else for the January meeting. As usual members start to arrive between 5:00 and 5:30pm and the business meeting/program starts at 6:30pm. Here’s a hint, if you’re going to eat, order your food early, just saying!

We are also developing options for where to hold our Holiday party. Mindi, KC8CKW, has developed two options so far and with her creativity will likely come up with more. The location of our party will certainly be a topic of discussion at the November meeting, so don’t miss out on adding your \$0.02.

Bill has pulled together another informative newsletter with current, relevant topics. Now that the CQWW SSB contest is over, turn the page and read on.

73,

Tom—NR8Z



A Buzz in the air...not just power line noise....

It would appear that the insect world is striking back! K8FL, Jim, shared the following with me at the September club meeting. He has a ramp leading in to his house and was walking on it when he noticed some bees buzzing around. In the course of investigation, Jim found himself on the receiving end of a large group of bees who were not happy at all. He made it into the house, but not after sustaining multiple stings and the resulting swelling.

He was finally able to remedy the situation and the picture shows the size of the bee hive/nest on the underside of the 4 x 8 ramp.

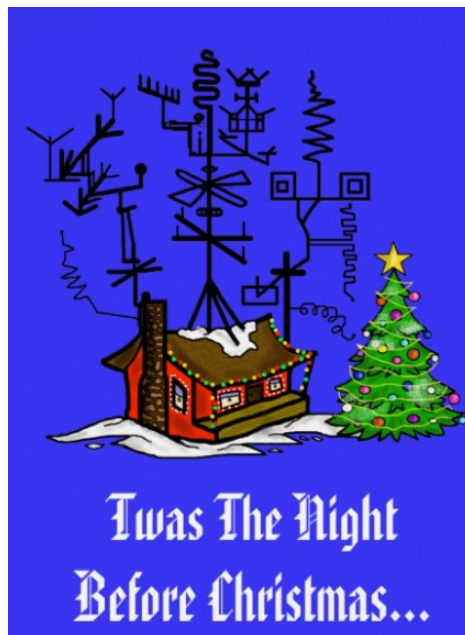
This certainly could have been much worse!



After talking to Jim, I decided to take a look around my house. I was planning out the 160M Helically wound vertical, so I needed to check things out anyway. Much to my surprise, I spotted a massive hornets nest on the overhang on the house. At any one time, I might have up to 5 grandkids hitting and throwing balls, frisbees, etc. So I needed to get this taken care of. The picture shows the size of it; the main body was larger than a basketball!



Moral of the stories...keep you eyes open!



Space Weather Parameters and Propagation

By Carl Luetzelschwab, K9LA

This article is from Carl's website and is a timely article as have seen an increase in solar activity, Reprinted with permission of Carl from www.k9la.us. This was originally published in June of 2021. Thanks Carl!



Over the past year I've given many presentations to clubs on the following topics.

- 1) Cycle 25
- 2) Simple antennas to get you on 15 meters, 12 meters, 10 meters and 6 meters for when Cycle 25 gets going in earnest
- 3) Introduction to HF propagation
- 4) Space weather parameters and their tie to propagation

This month's column puts into words the material that is on the slides of #4 above – space weather parameters and their tie to propagation.

Caution

When talking about how space weather parameters affect HF propagation, we must realize that what we're trying to do is reduce very complicated solar, atmospheric and ionospheric processes into simple statements. This doesn't work all the time. For example, if today's 10.7 cm solar flux is greater than yesterday's 10.7 cm solar flux, does that mean that the higher bands (15m, 12m and 10m) will be better today

Unfortunately the answer is "not necessarily." The reason is although solar radiation at extreme ultraviolet (EUV) and x-ray wavelengths instigates the ionization process (of which 10.7 cm solar flux is a proxy), geomag-

netic field activity and events in the lower atmosphere coupling up to the ionosphere also come into play to determine the amount of ionization at any given point on Earth at any given time.

We have a decent understanding of solar radiation and geomagnetic field activity effects on the ionosphere, but we are lacking in our understanding of events in the lower atmosphere coupling up to the ionosphere. There's much research going on in this latter area. The result of this is that our propagation predictions are not daily predictions – they are monthly median predictions.

Where Do You Get Space Weather Data?

As you're probably aware, there are many sources of space weather data. Here are the ones that I usually mention in my presentations.

- a) The NØNBH banner at <https://www.qrz.com/> (it shows up in many other places, too)
- b) The <https://spaceweather.com/> website by Dr. Tony Philips
- c) The Space Weather Prediction Center (SWPC) website at <https://www.swpc.noaa.gov/>

Space Weather Parameters—K9LA (cont.)

d) VE3EN's website at
<https://www.solarham.net/>

e) WX6SWW videos by Dr. Tamitha Skov at
<https://www.spaceweatherwoman.com/>

I know there are more space weather websites out there. So I apologize if your favorite one is not listed above. What we're going to focus on is the NØNBH banner. It has all the parameters that I think are important for our purposes, and they are included in a single image.

What Parameters Are Important?

Before identifying which parameters are important, let's take a step back and think about what we're trying to do. We are trying to determine the general state of the ionosphere in relation to the different bands. To do this, we need to know how ionized the ionosphere could be, and if there are any disturbances that could degrade the ionosphere [note 1]. We'll mainly be interested in the F2 region, as that's the region of the ionosphere that is responsible for most of our medium-distance and long-distance QSOs.

Parameters to Determine How Ionized the Ionosphere Could Be

To start, let's define the baseline condition. When we're in a deep solar minimum period (as we've been in for the last two solar minimums – between Cycles 23 and 24 and now between Cycles 24 and 25), we know that 20 meters can be open worldwide during the day and early evening (and of course the frequencies below 14 MHz should also be open – but they depend more and more on ionospheric absorption as you go lower in frequency). This is true even if the

10.7 cm solar flux is bottomed out between 65 and 70 and there are zero sunspots.

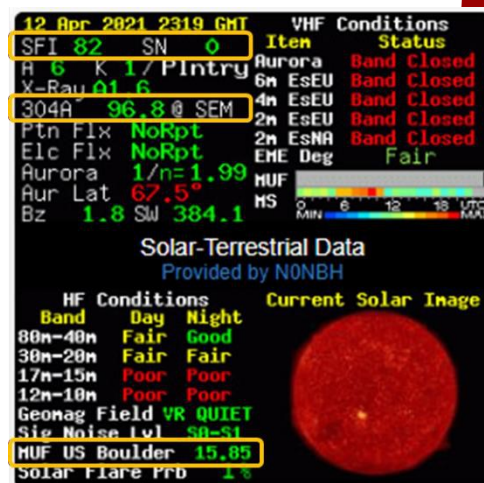
There is still enough solar radiation at EUV wavelengths (the true ionizing radiation for the F2 region – and remember that the 10.7 cm solar flux and sunspots are but proxies for EUV) to result in enough free electrons (what's important for HF propagation) to offer 14 MHz and lower frequency contacts.

Thus EUV, 10.7 cm solar flux and sunspot data can give us an indication of the status of the higher HF bands – 17 meters, 15 meters, 12 meters, 10 meters and 6 meters.

These three parameters are found on the NØNBH banner as indicated in the gold boxes in the image above.

SFI is the daily 10.7 cm solar flux, SN is the daily sunspot number and 304A is the daily EUV radiation at 304 Angstroms (304 Angstroms is equivalent to 30.4 nm). It's important to note that about 60% of the ionization in the F2 region is due to solar radiation between 26 and 34 nm. Thus the 304A parameter is a good direct indication of how well the F2 region could be ionized.

(cont. on next page)



Space Weather Parameters—K9LA (cont.)

The table below shows the rough values of SFI, SN and 304A EUV that are needed to open the indicated bands for worldwide propagation on many days of the month (not just for a day or two).

Note that the values are for many weeks. Ideally they should be long-term smoothed values, but ‘many weeks’ is a reasonable compromise.

Now you have some ballpark values to assess which of the higher bands could be open on a daily basis. A final comment – the MUF US Boulder parameter is the maximum useable frequency (MUF) in MHz over the Boulder ionosonde assuming it is the midpoint of a 3000 km hop. It is not an assessment of what the ionosphere may be doing – it is an actual

measurement of what the ionosphere is doing right now. And it takes into account what we’re going to talk about next.

Parameters That Could Degrade the F2 Region

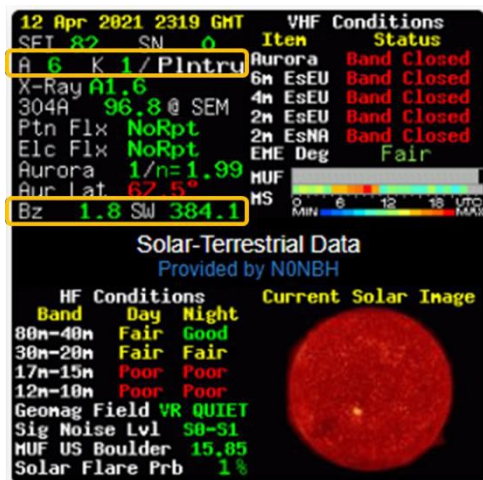
Although the SFI, SN and 304A parameters indicate that the bands may be open, we have to know if there are any disturbances to propagation that may be degrading the F2 region in terms of the amount of ionization (the number of free electrons). The parameters that can help us are those that tell us if the Earth’s magnetic field is active (disturbed). These are K, A, Bz and SW in the gold boxes in the image on the next page. (cont. on next page)

	SFI value for many weeks	SN (V2) value for many weeks	EUV value for many weeks
17m	80	30	105
15m	90	50	140
12m	105	75	195
10m	125	100	250
6m	190	215	400

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Space Weather Parameters—K9LA (cont.)



The K index is a 3-hour parameter on a logarithmic scale (0-9). The A index is the daily average of the eight 3-hour K indices and is on a linear scale (0-400). The 'Plntry' annotation is short for 'planetary', indicating that the K and A indices are averages of multiple worldwide observatories. To indicate planetary, a subscript 'p' is appended to K and A – thus the planetary K and A indices are Kp and Ap to distinguish them from observations from a single observatory.

Bz is the strength and magnitude of the interplanetary magnetic field (abbreviated IMF and roughly from -100 to +50 nT). The Bz component is perpendicular to the ecliptic – the plane in which the Earth rotates about the Sun. Thus Bz is essentially the north-south component of the IMF, and Bz tells us how much the IMF is coupling into the Earth's magnetic field.

SW is the solar wind speed in km per second. The quiet time value is around 400 km per second and it can increase to around 2000 km per second when a big Earth-directed coronal mass ejection (CME) or

when an Earth-directed coronal hole (CH) high speed stream occurs.

The higher the K and A indices, the more degraded the F2 region of the ionosphere can be. The more negative the Bz component, the more degraded the F2 region can be. And the higher the SW parameter, the more degraded the F2 region can be. Here's a table of what we generally desire in terms of these parameters for an undisturbed F2 region.

parameter	what we desire
K	≤ 3
A	≤ 15
Bz	positive or small negative value
SW	not too much above 400

These four parameters can be considered to be bundled into the three categories of disturbances to propagation as defined by NOAA: geomagnetic storms (G), solar radiations storms (S) and radio blackouts (R). The scale for these three disturbances is from 1 (minor) to 5 (extreme). The details are at <https://www.swpc.noaa.gov/noaa-scales-explanation>. If you see any of the three at greater than 2 (at the top of the home page at <https://www.swpc.noaa.gov/>, for example), then you can be assured that the F2 region could be disturbed (lower MUFs) and there could be increased D region absorption in the polar cap (from energetic protons caused by a big M- or X- Class solar flare) and/or increased D region absorption on the daylight side of the Earth (from x- ray wavelength radiation caused by a big M- or X-Class solar flare).

(cont. on next page)

Space Weather Parameters—K9LA (cont.)

Real-Time Assessment of the Ionosphere

All of these parameters (SFI, SN, 304A, K, A, Bz and SW) allow us to make an assessment of the ionosphere. But remember the caution at the beginning of this column. Sometimes interesting propagation can happen when we think propagation won't be good.

The 2018 California QSO Party was a great example of this. I didn't hear any W6s on 10 meters on Saturday. But the K index spiked up a bit Sunday and then there were many W6s on 10 meters. Looking at the Boulder ionosonde showed MUFs around 20 MHz until the K index spiked up on Sunday. Then the MUF went up to a bit higher than 30 MHz, allowing good propagation between W6 and the Midwest on 10 meters. So pay attention to when the K index initially spikes up a bit – if you're in the right place at the right time, good things could happen. There are also many observations of improved 160 meter propagation across the high latitudes when the K index spikes up a bit [note 2].

With much information on the Internet, it's also possible to bypass all those parameters to get a decent picture of what the ionosphere is doing right now. With respect to the ionosphere, visit <http://prop.kc2g.com/>. It will show you worldwide MUFs for 3000 km paths. Here's a sample map at 2200 UTC on May 9. It uses ionosonde data (the numbers in circles) and adds contour lines. It's updated every 15 minutes. From this you should be able to estimate what frequencies may be propagating anywhere in the world. Remember this includes all the aforementioned parameters.

To find out who everyone else is working right now, visit dxmaps.com. Select your view (North America, Worldwide, etc.) and the band. There is a sample screen shot at the top of the next page for 17 meters on May 9 between 2109 and 2209 UTC. As you can see, 17 meters was doing very well between North America and VK/ZL, South America and Europe.

PSKreporter, WSPRnet, the Reverse Beacon Network (RBN) and the worldwide IARU/NCDXF beacons on 20m, 17m, 15m, 12m and 10m are similar applications that can tell you what's going on right now

Summary

I hope I've given you some good guidelines to assess propagation. Just remember the caution on page 1.

It's interesting to think about what the future holds. As mentioned in my September 2020 Monthly Feature titled "The Future of Propagation Predictions," perhaps someday we'll have all kinds of real-time propagation information displayed on our SDRs.

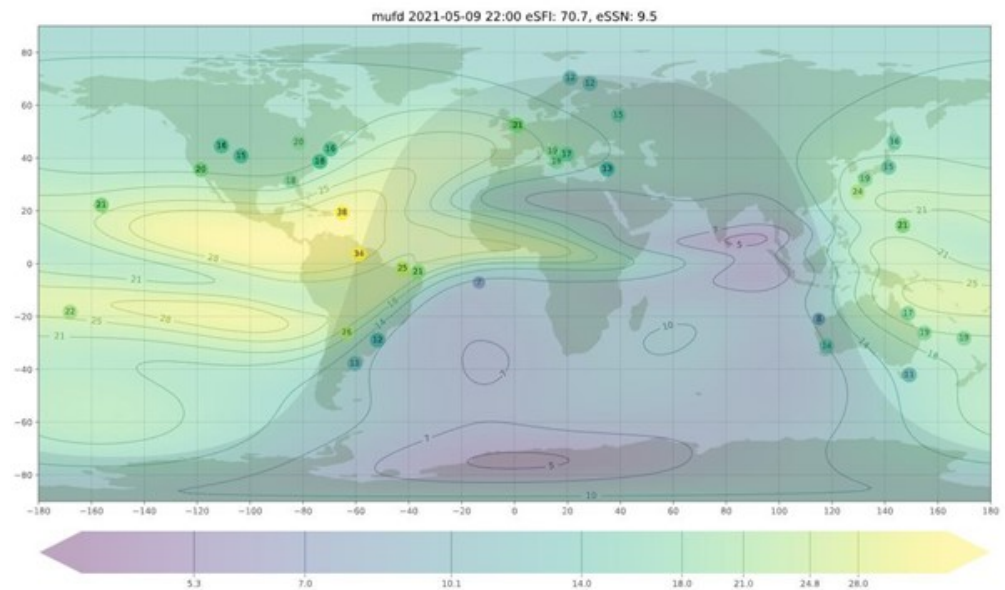
Notes:

1) Ionospheric absorption is also important, but there are no regular measurements of the D region (where most absorption occurs). So there isn't a parameter that we can monitor.

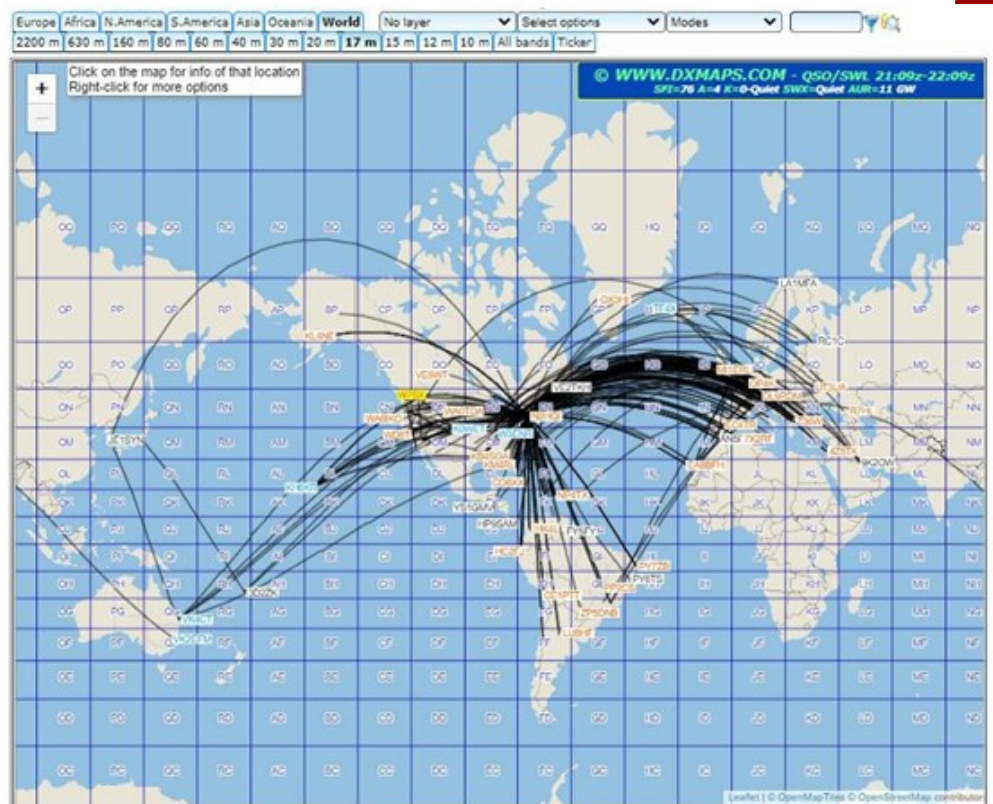
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Space Weather Parameters—K9LA (cont.)

We have riometers (relative ionospheric opacity meters) that measure galactic noise as it passes through the ionosphere, but translating those measurements to absorption is tough. And the D-RAP (D Region Absorption Predictions) measurements (<https://www.swpc.noaa.gov/products/d-region-absorption-predictions-d-rap>) only tell us about D region absorption in the polar cap or on the daylight side of the Earth when there is a big (M-Class or X-Class) solar flare.



2) And don't forget that the Sun hiccups every once in a while, which might give us great propagation on the higher HF bands. Late last year was a good example. The EUV spiked up significantly, which resulted in great propagation for the CQ WW DX PH Contest in October, the CQ WW DX CW Contest in November and even the ARRL 10 Meter Contest in December. Unfortunately the EUV settled back down to solar minimum levels in early 2021. But it was a good look into the future when Cycle 25 gets going in earnest.



Amsterdam Island 2014

The FT5ZM Story

By Jay Slough, K4ZLE

This article originally appeared in the May/June 2014 of The DX Magazine. Thanks to Jay for his permission to reprint this.

Do you remember the 1970s TV series "The 'A' Team"? That team was composed of a relatively small, elite group of individuals with diverse skills, from various backgrounds. They took on extremely difficult tasks with verve and vigor and when the final scene was fading into the rolling credits, they emerged victorious. The leader of that team was one Col. Hannibal Smith and his most memorable tag line was "I love it when a plan comes together." This story is about another "A" team, the 2014 A-Amsterdam team. It too was composed of a relatively small group of eclectic individuals with diverse skills, from various backgrounds. The operations team consisted of fourteen members from seven different countries. Every one of them had previous experience facing the wall. Do not be led astray, however, as all truly successful operations are backed by an equally skilled and dedicated support team. This "A" team is and was no exception. Our support was manifested in many ways, from financial support, to logistics, to station composition and setup, to web site creation and maintenance, to piloting activities, to technical consultation, to transportation, to physical on-site food and lodging provisioning, and finally to the QSL team. Prior to this operation, Amsterdam Island was ranked #4 worldwide on The DX Magazine's Most Wanted list.

(cont. on next page)



Station "ANTONELLI"
The porch sits above a deep caldera



Station "MATAF"
It was situated down the old fence line.

Amsterdam Island 2014—The FT5ZM Story—K4ZLE (cont.)

About 82% of registered Club Log users needed this entity and there had not been any activity from there since 1998 — 15 years ago. I will not cover number results, except to say, 170,000-plus QSOs speak for themselves! Check out the number results on Club Log.

The Story from the Inside

I am going to attempt to slant this report with a slightly different angle than normally taken. I was a "replacement" operator. George, N4GRN, was originally supposed to be part of the on-site cadre, but, as sometimes happens, life's priorities conflict with our individual priorities.

Without boring the reader with all the details, when I checked in with my wife from LAX, on the way to join the T33A, Banaba team, she told me that I had a call from Ralph, KOIR, with an invitation for FT5ZM. I called him back and declined. After arriving on Banaba, I found out that my dear wife had issued a "kitchen pass" as a 70th birthday present. She is indeed a treasure! I will try to present this story from the inside. Not as one who was "inside" the core group that drove to make it happen, but rather as one who got to tag along, to see the experience unfold, and to participate in the adventure from the front seat.

The Whys of Going on a DXpedition

But first of all, why did I go? Why do any of us go on DXpeditions? Why do we invest our time, money, and energy to travel to the utter most parts of the Earth, spending time away from our loved ones, enduring unruly pileups under less than optimum environmental conditions? Each of us may enu-

merate our own set of reasons (or excuses). Perhaps they can be classified into three major categories: Ego, Altruism, and Adventure. I suspect for any one of us, if we are honest with ourselves, there are components of each that drive us. I know I like to be recognized for my efforts, but my main driving force is the adventure. Ego may be a part of what drives some of us, but it most often encompasses the other two aspects of a DXpedition as well, making each one of us a part of a team, as in this case. As for altruism, most of us who embark on these trips have some sense of giving back to the hobby. For me, personally, ham radio has provided 56-plus years of avocation and it very strongly influenced my vocation. The first component of Adventure is gaining knowledge, education, and experience. Very few people get to experience firsthand the pristine nature of a place such as Amsterdam Island or Bouvet, the hope and expectations of the peoples of a new country such as

(cont. on next page)



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Amsterdam Island 2014—The FT5ZM Story—K4ZLE (cont.)



*Bob, N200, our QSL Manager
"Thumbs up, you're in the log!"*

Uganda, or the history of places such as Wake Island. The list goes on. It is my firm belief that true DXers are better informed world citizens than the average dude or dudette on the street!

Those who have the privilege of actually going on a DXpedition are still another standard deviation removed from the average. For me, trying to describe this aspect is like trying to describe the majesty to someone who has never had the experience of the night sky on a clear new moon night (without man-made lights). Another part of the adventure classification encompasses the concept of Mission. Maybe you have heard it said that there are three types of people: Those who make things happen, those who watch things happen, and those who have no clue what's happening. Again, it's my opinion or belief, but if you look at those who go on expeditions such as FT5ZM, most have type-A personalities and fall into the first category. They are doers of their word. On this type operation one is a part of a team of highly skilled, motivated, experienced operatives who have set a goal and devil-be-damned, they are determined to accomplish that goal! When this

type team comes together, there is no "political correctness" to contend with. Members may come from different cultures, countries, education levels, etc., but they know from the get-go what they intend to accomplish and are committed to same. If the team has been properly constituted, as was this one, there is no ramp-up time. Even late additions such as me are given their assignments and snap in quickly. It reminds me of my active Marine Corps days where a unit is assigned an objective to take and because of proper training and planning the end result is a forgone conclusion. Thus, the bottom line: Part of the reason for going on a trip like this is working with a like-minded group of individuals to accomplish what few others have or will ever accomplish. Yeah, it sounds like elitism and I guess that is where ego enters for me! If you are not striving to be amongst the best, the best you can expect is mediocrity.

(cont. on next page)



The generators were placed inside depleted fuel containers to mitigate any fuel/oil spills.

Amsterdam Island 2014—The FT5ZM Story—K4ZLE (cont.)

The FT5ZM DXpedition Unfolds

All of the forgoing leads to this: What was it like being an operator on the FT5ZM DXpedition? It was all I expected and more. To get there, I was scheduled to leave the Greater Cincinnati/Northern Kentucky airport at 9:55 local time on January 8, 2014 for a flight to Chicago O'Hare. There, I was to meet other team members: KOIR, K4UEE, WB9Z, and K9CT. When I arrived at the airport, the flight scheduled several hours earlier was still on the ground. My plane was not on radar, so to speak. The earlier scheduled plane was projected to depart about the time I originally had been scheduled to leave. I was able to cajole the ticket agent into rebooking me on the "earlier" flight. From there on, there were no hiccups in airline connections. Some of us even managed to get free upgrades on one or more of the subsequent legs from Chicago to Hong Kong to Perth. Total flight time was about 32 hours.

We met VE7CT in Hong Kong and arrived in Perth in the wee hours of January 10th. All the team was together by the 13th and the RIV Braveheart arrived in the neighboring port of Fremantle on the 12th. By the way, the Braveheart had just finished an 18-day trip from Wellington, New Zealand across the bite of Australia encountering seas as high as 24-plus feet to meet us.

About noon on the 15th, we set sail for Amsterdam Island. The ship is 39 m long (127 feet) and had a crew of six. According to the ship's log at 04:30 AM local time on the morning of the 9th day we spotted Amsterdam Island on the

horizon. How do you describe nine days at sea? Nine days on any vessel is still nine days at sea! 5 days were rough, and certain members of the team thought it their duty to "stand watch" on the fantail and "chum" the southern Indian Ocean sea life.

The Braveheart proudly displays five DXpedition of the Year™ plaques in its galley/library and were eager to hang a sixth one. They take their role very seriously on these trips. We cannot express how integral the ship's crew was to the subsequent success of FT5ZM. Not only did they provide support/transport at sea, but they helped with setup, tear down, and logistical support on the island. As an aside, we operated maritime mobile as VK6FZM betwixt Amsterdam and Australia, logging almost 6,000 Q's. Elecraft provided a KX3 and newly released KPA100 for our use at sea. What a sweet little rig!

I mentioned earlier that there is more to an operation like this than the 14 "official" operators. There were 20 French personal assigned to the island for scientific, research, and support duties. There was no "them" and "us"! We were welcomed with open hands and treated very well while there.

(cont. on next page)



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Amsterdam Island 2014—The FT5ZM Story—K4ZLE (cont.)

Housing was in one of their dorms. We ate in their restaurant and joined in with their team for meal setup and clean up and participated in their off-duty activities. (Can you spell B-A-R?)

There were several joint activities and a special logo T-shirt was created (designed beforehand by one of the island personnel), printed by us and provided to all 40 team members — 14 ham ops, 6 Braveheart crew, and 20 Amsterdam Island cadre. In addition to those already mentioned, the following should be considered part of our team and their support was also key to making this trip a success: W9IXX, SQ8X, NV9L, JR4OZR, MMONDX, KH6CG, ZL2AL, N7XG, W6IZT, K6TU, N4GRN and the SJDXA crew who will be handling the QSL chores. I know I probably missed someone, and I apologize now.



Maybe this help describe the night sky on a moonless night.

some 600 feet up the volcanic slope from the base. It took about an hour to traverse the 1.5-mile winding path from the base to the site. Mataf was probably about a half mile away and was down toward the water. I was assigned to Mataf for setup. At both sites we had to wade through grass that was

waist to chest high whenever we ventured away from cleared areas. It was rougher at Antonelli than at Mataf, but neither site was a walk in the city park.

The island is volcanic. Therefore, the actual surface, hidden under the grass, is rough and contains loose volcanic stones. It took a day to erect the five beams at Mataf and we were able to use old concrete fence posts for our base supports. It took another day to complete antenna installation, but we were on the air that afternoon, with Arnie, N6HC, doing the honors from Mataf.

(cont. on next page)

Setup, Challenges, and Operation

Once on the island and with the official preliminaries behind us, setup began. As part of the planning and logistics preparation we knew there would be two operating sites, named Mataf and Antonelli. Equipment was packed into Pelican cases and all shipping containers were color coded by site. Prior to disembarkation from the ship we had been divided into two 7-man setup teams. With assistance from French base personnel, equipment was delivered to the site or as close as possible and we commenced setup. Four stations were installed at each site. Antonelli was



Arnie, N6HC and Neil, VA7DX

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Amsterdam Island 2014—The FT5ZM Story—K4ZLE (cont.)



(l to r) Jay, K4ZLE and Nodir, EY8MM

Upon arrival on the island, in addition to being greeted by the base personnel, we were greeted by about a dozen elephant seals languishing about on the concrete jetty and "bunches" of fur seals. The elephant seals were so big and cumbersome all we had to do was stay out of their way, as they did not crawl far from the jetty. On the other hand, the fur seals were more voracious and confrontational. They climb high up the slopes of the island and nest in the tall grass. For this reason, we were prohibited to travel about the island in the dark, even with flashlights. Since we had 8 stations and 14 operators, and we had nighttime travel restrictions, we ended up with 12-hour shifts for Mafaf and 24-hour shifts for Antonelli. There were a couple of bunks at each site and our routine was go to our site and operate until too tired to continue or the bands went stinko. Then we tried to catch some "zzzzs."

At Mafaf we were close enough to walk to lunch, but if you ate at the restaurant you had to be there on time. If you were operating from Mafaf on day shift, you could usually find enough to eat from previous night shifts to stay and operate vs. going up for lunch. The Braveheart crew shuttled food to Antonelli during the day and

usually had someone on site to make coffee or heat something for those manning the rigs. If you wanted to shift from one site to the other, you usually ended up pulling back-to-back 24-hour shifts at both sites. It was a grueling schedule, but like I stated before, part of the adventure aspect of DXpeditioning is the concept of Mission.

In addition to the seals, there were some Northern Rockhopper Penguins on the island. I only saw one in our 20 days there. There are supposedly feral cats, but I never saw one. However, on the trail between the base and Mafaf, I periodically encountered some strange sounds in the grass that were not made by seals. There is a species of Albatross endemic only to Amsterdam, curiously named the Amsterdam Albatross, which is subject to study by some base personnel. There had been a herd of feral cattle on the island between 1981 and 2010, but they were eradicated as part of a program to restore the island to a more endemic state. And, of course, all islands have rats and mice, no? Amsterdam is no exception. It was not unusual to be operating at night and have a mouse run across the wall or over the equipment. Since there was such tall grass, there also were pesky grasshoppers a plenty who kept trying to insert themselves between us and the equipment.

Each site had four operating positions. Two positions were 100% Elecraft, consisting of K3s and KPA-500s, and the other two positions had K3s driving OM2000 Power amplifiers, supplied by Array Solutions and OM Power. AC power was provided by two 6 KW gasoline generators with a spare 3.5 KW per site.

(cont. on next page)

Amsterdam Island 2014—The FT5ZM Story—K4ZLE (cont.)

Because of environmental concerns, we had to run our generators inside modified, depleted diesel-fuel containers from the Braveheart. The Braveheart crew kept the generators hot. Beam antennas at Mataf were furnished by Force 12 and were all 3-element Yagis. Beam antennas at Antonelli were KSGO designed for us from Cycle 24 before it was acquired by DX Engineering. The Antonelli beams also were all 3-element Yagis. At both sites, antennas for the bands below 20 m. were verticals, either home brew or from DX Engineering. Various receive antennas were used on the lower bands. DX Engineering was one of those suppliers.

I note that we had to cease operation on 40 and 80 meters at Mataf after a couple of nights because we were interfering with local scientific monitoring equipment. All positions used W2YY interfaces and Radio-Sport Headsets from WI6R. We all brought our own paddles.

As you can imagine, when you operate for 12 or 24 hour shifts, any seat will test any human's seat. At Antonelli they had real chairs for all four positions. At Mataf, two of the positions were side by side on a picnic table lo-

Eventually we moved one of the positions inside the building, making for tight quarters, but workable.

Another factor in moving one of the outside positions inside was weather related. Amsterdam is about the same latitude south as my home QTH in Ohio is north. Since it lies in the Southern Hemisphere, it was their summer. The "average" temps in January and February are supposed to be in the lower 60s F and the average minimum in the high 50s F. That's average and we had mostly average days, WX wise. However, we had a few nights with blowing mist and temps in the 40s F. We had tarps positioned to block the wind and mist, but the cold paid no never-mind to those tarps. It was downright miserable. Have you ever tried sending CW with gloves on? We kept expecting someone to send "QLF didi-dahdahdidit." Jerry, WB9Z, ended up being the prime picnic table operator. What does that say about his tush and temperature tolerance?

The pile ups were pretty much non-stop, wall to wall the entire time. It was not unusual to find the spread to be at least 20 kHz to 50 kHz wide, depending upon band, mode, and day. I personally never expanded the active window beyond 15 kHz, even on SSB, but that did not stop the pile from spilling over wider. I know we worked some little pistols and even some pea shooters, but also know that right up to the last morning we were still working lots of big guns who were seeking band/mode fills and/or green checks on the leader board. I hope it is not another 15 years before FT5Z is activated again. It is my opinion that if it were activated today for another 20 days, the harvest would still be ripe.

(cont. on next page)



(l to r) Ralph, KOIR and Arnie, N6HC

cated on the covered porch. It was no picnic to operate from the picnic bench!

Amsterdam Island 2014—The FT5ZM Story—K4ZLE (cont.)

Food was provided and prepared by the base chefs and all I really need to say is "French" chefs! Did I mention how good the fishing was off the jetty or that lobster was an easy harvest on Amsterdam? The cheese tray alone had more variety than my local deli and the deserts . . . Um-rnm. I'm not a wine drinker, but there was enough grape nectar to assuage the most intense thirst and titillate the taste buds of the most discerning connoisseur. None of us lost weight on the island. Come on folks, give us a break. We needed something to make up for all the other hardships!



*Jerry, WB9Z
"Iron Pants" on the picnic table under the tarps*



(l to r) Erling, LA6VM and Michele, FM5CD

Departure and Special Moments

Because of impending bad weather, we began the tear down at Antonelli on February 11" and Mataf on February 12. It took less than a day to do the dastardly dismantling deed at each site. I had the honor of making the last QSO from FT5ZM and it was indeed an honor. The weather did deteriorate, and we were to a point that if we had not departed when we did, we would have been de-

layed for a few days. Since the rigs were all packed, we had no incentives, other than culinary, to remain. We left the island with waves breaking over the jetty and appreciate the skill of the Braveheart crew and the island team in expediting our extraction!

According to the ship's log for February 13: 0800, started loading equipment; 1000, cargo on board; 1030, tele-tubbie {5} on board; 1500, departed. That phase of the operation went without hook or crook. (Well maybe hooks were involved on the cranes, after all.) While the crew properly stored and tied down the equipment, we prepared for another nine days at sea, very much like the nine days going to Amsterdam. I am confident we all left the island with mixed emotions. Although the return trip was "only" nine days, it sure seemed longer to me.

(cont. on next page)



*Jorge, HK1R
It may be their summer, but sometimes it got "cool"*

Amsterdam Island 2014—The FT5ZM Story—K4ZLE (cont.)

Once we got back to Fremantle on February 22nd, we had a few days to pass before our scheduled flights home.

Dwell time in Australia was not without its special moments. Prior to our departure from Australia to Amsterdam our team had a "barbie" at the home of VK6IR with him and his wife as hosts and various members of the Northern Corridor Radio Group in attendance. These guys were great! The aluminum towers we used on Amsterdam were lent to us by their club. They provided transportation to and from the airport for most of us, including those with flights arriving and departing at "O dark thirty." In the time between returning to Australia and departure home, they were again superb hosts. This time the barbie was at their club station most impressive digs and excellent food, even if it was not prepared by French chefs! Consequently, I have several new friends among these mates. But, isn't that a stated *raison d'être* for our hobby? Maybe making new friends is a fourth reason for going on these trips?)



(l to r) Steve, VE7CT and Craig, K9CT

Summary

I do not want to denigrate anyone from any other DXPedition I have been on, but beyond a doubt, this was the "A" Team. I have been blessed to have operated with some truly great folks over the years, but the FT5ZM team epitomized what a top-tier DXPedition should be like. Everyone did his job. There were no personality issues. The complete team, including our support folks, was well constituted. The plan was well developed and executed! I remind you of Colonel Hanibal Smith's tag line, "I love it when a plan comes together." I am sure you do too!

Thanks to all my fellow teammates for letting me share the experience with you. I hope and pray I get the opportunity to do it again at least once more in my life•time. I also hope you, the readers, have a glimpse of what it was like to have been an operator on the FT5ZM team.

(cont. on next page)



(l to r) Bob, K4UEE and Michele, FM5CD

Amsterdam Island 2014—The FT5ZM Story—K4ZLE (cont.)

Even as a crazy person, I can do some simple math. I figure it cost me personally more than \$1.25 for every QSO I made and overall each QSO cost about \$2.60. In addition to the equipment sponsors, it is with the utmost gratitude that we thank organizations like NCDXF, INDEXA, clubs, organizations and individuals who have given to make this a reality for you. Have you contributed your fair share?

As we roll the credits, I highlight again my wife, who made this a reality for me by calling Ralph back and telling him to add me to the team after I initially declined. Thanks, hon. You're the greatest!

Notes

- ¹ Facing the Wall: For those who have never operated from a top-tier needed entity, from the business end of the pileup there appears to be a solid, impenetrable wall of noise making it extremely difficult to identify an individual call. The concept of 'The Wall' is equally applicable regardless of mode.
- ² Lest you feel this is insignificant, there were 24,244 users and 31,941 call signs registered in Club Log as of Mid March 2014. There were 36,266 Unique calls in the FT5ZM logs.
- ³ Proverbs 18:22 and 31:10
- ⁴ However, if you have someone like Nodir, EY8MM, he does the next best thing with his photos! Check some out at <http://www.ey8mm.com/pictures/view-album/61>
- ⁵ Teletubbies: This is what the owner of the Braveheart, Nigel Jolly, "lovingly" calls his favorite ham DXPeditioners, obviously referring to the BBC children's TV series about little creatures of different colors with antennae sprouting from their heads!



(l to r) Craig, K9CT and Andy, UA3AB



(l to r) Andy, UA3AB and Nodir, EY8MM



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60 Meters—The Channel Band

By Joe, W8GEX—w8gex@aol.com

There has been a lot of 60m activity the past week or so, and will continue for the next 10 days.

- S9OK operation was a big success and they are now QRT.
- C5C started tonight. Their email told me they will be on 5403.5 & 5363 ssb and cw 5405 and 5361 for Europe plus 5.357 for FT8. In another email, they said the power is off and on, so if they disappear, stand by until their power is restored.
- 7P8RU team started last night with a big pileup into Europe.
- I am also working on another ATN but not ready to release the info now.
- John W5JON is active now from PJ5 after being on at PJ7.
- The HR8D team should be on tomorrow if all goes well for them getting set up.

So we can look forward to some fun for the next ten days with great teams. Good DXing to all and have fun!

The Gambia: NOW ACTIVE

Gerard (f5nvf) will be active from 24 October till 19 November as C5C maybe more if he can stay there longer. He will be QRV CW & SSB on 60-10 m (100 w with ic7000). He will be joined later by M0NPT & F5RAV to be QRV on all bands with ic705 & expert 1.3 kfa to be QRV FY8 SSB CW on all bands. (from 28 Oct-8 Nov).



Best 73' Luc F5RAV

St. Kitts, Sint Maarten and St Eustatius

I am planning on spending one whole night on 60m from both Sint Maarten (PJ7) and St Eustatius (PJ5).

73, John W5JON

PJ5/W5JON - St Eustatius October 24 - Nov. 1, 2021.

HD8, GALAPAGOS ISLANDS

Members of the Tifariti Gang/DX Friends will be active as HD8R from Galapagos Islands (SA-004) between Oct 26, to Nov 7.



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Collins S-Line Restoration, On Air Operations, and 100 DXCC Entities—Part 2

By Dave, K8DV—k8dv@cinci.rr.com

Last month I wrote about my early days of looking through the pages of ham radio magazines like it was the latest edition of the Sears Christmas catalog and dreaming of what it would be like to operate some of the equipment that was out of reach for a student on a grass cutting budget. I also went over on my adventure to restore the Collins 75S-1 receiver and getting it back in working order and ready for on-air operations.

The next piece to tackle is the power supply 516F-2 which Collins used to power the 32S-x series of transmitters and the KWM-2 transceivers. The 516F-2 power supply virtually went unchanged over the entire period of Collins gray box production, approximately 1958 through the mid-seventies. My particular power supply is from 1961 and was all original. After removing the power supply from the cabinet and just doing a visual inspection there was no question



Figure 1 Original Components in 516F-2



in my mind that the power supply needed some work done. At 60 years old it was time to do some updates.

I started researching on what was available for rebuilding and cost of the different options. I know that some of the Collins purists out there would argue with me about my decision and believe it should be left as close to original design as possible. After spending considerable time in researching and thinking about what others have done and the things they suggested, I put together a list of things I wanted to accomplish with the update. Some of the biggest concerns with a lot of Collins users were higher line voltage that we see today at 120 volts verses 115 volts years ago, replace the tube rectifiers to reduce load on transformer and be able to add years of life of service and keep the look original.

(cont. on next page)



Figure 2 Line Voltage at K8DV

Collins S-Line Restoration (cont.)

The following items is what I came up with that I wanted to address:

- ♦ Replace all old capacitors
- ♦ Replace tube rectifiers
- ♦ Replace worn line cord
- ♦ Add years of life and reduce on-going maintenance
- ♦ Add relay for power on/off to take surge/load off on/off switch of transmitter
- ♦ Keep appearance of it being original, no modifications to cabinet
- ♦ Have a much of the above on one circuit board

I ended up going with the Radio Farm Projects Collins 516F-2 rebuild kit as it gave me a solution to all my items on the list above. The kit includes the circuit board, new capacitors, diodes, resistors, stand offs for mounting in the base of the power supply as well as relay for taking the load off the switch in the transmitter and provided a new line cord. The board is well made and high quality. It took about an hour to assemble the board starting with the diodes, then the capacitors, resistors and finally the relay. After completing this task laid it aside to prep the power supply for installing the Radio Farm Projects board.



Figure 3 Radio Farm Board

In preparing the 516F-2 chassis by removing the tube rectifiers, which is just pulling them out of their sockets as well as cutting all the old capacitors, resistors and the one diode that was used in the original design in the bias supply. Also had to remove all the clips that were used for holding the original capacitors.



Figure 4 Completed Board

The next step is mounting the board in the bottom chassis of the 516F-2 using the supplied hardware and begin the process of wiring it in. I elected to leave the original wiring in place and take them



Figure 5 Prepping for new board

loose one at a time to connect to the new board, this way it would be easier to know what was coming from where and keep track as I went. After getting the board in and wired up I went back over all my work to verify my wiring, connections and solder joints. The last thing I did was wire in the new line cord that replaced the original that the insulation was dry rotted and was falling off so it was becoming if not already a safety hazard.

(Cont. on Next Page)

Collins S-Line Restoration (cont.)

The next step was to check it out and see if it was producing the right voltages, I



Figure 6 Board Mounted

but a jumper across the connections that normally go to the on/off switch in the transmitter, hooked up my voltmeter to the filament supply to start with as this would be a good indication that my wiring was correct if I had voltage there. Upon plugging the supply in my meter read 7.31 volts on the filaments, as many of you know that is a volt higher than you want which is due to the higher line voltage we have today. I then proceeded to check the high voltage, low voltage and the bias voltage, all of these were within specifications without a load attached.

To reduce the filament voltage I decided to do what is referred to as bucking the primary of the transformer, basically what you do is use the previous used secondary windings that went to the filaments of the tube rectifiers and put them in series with the primary winding. Keep in mind there is polarity associated with these windings so connecting one way you will raise the secondary voltage and the other will lower it. I ended up using both filament windings that went to the rectifier tubes that ended reducing the



Figure 7 Filament Voltage

filament voltage by just over a volt to 6.23 volts.

The last step was to dress the wiring and final prepping the power supply to reinstall back



Figure 8 Filament Voltage

into the cabinet. All in all I have about 6 hours invested in the 75S-1 receiver and 4 hours in the 516F-2 power supply.

That is it for the Collins 516F-2 power supply and it is ready for use, unlike the receiver it will not be set aside as it will be used to power the 32S-1



Figure 9 New board wired in and wires dressed

transmitter which is next to be put on the bench for service and get it ready to start my chase of 100 entities old school.

Hope you enjoy reading about my journey of putting these 60 year old beauties back on the air. I cannot wait to start having some on air fun with these. Until next time when I will be writing about bringing the 32S-1 back to on air operations.

73,

Dave, K8DV

Interview with F8PDR—Benoit

I worked Ben and after reviewing his QRZ.com page, I had to contact him. He agreed to answer some questions and sent along some great pictures as well.

AJ8B: How did you first get interested in amateur radio?

F8PDR: When I was 13 or 14 years old, I discovered ham radio with a friend's father. That day he was listening to morse code (CW) and that was a trigger. I learned morse code at the age of 16, alone with PC Tape Computer, Amstrad. My license was in a transmission regiment during my military service in 1991.

AJ8B: Do you have a favorite band or mode?

F8PDR: When the propagation was good and the SFI high, I really liked the 10M band. It was open day and night and was very quiet because the noise is very low. For a few years, I have preferred 40M and below, mostly CW, my brain sport!

AJ8B: What time of day and days do you like to operate?

F8PDR: I'm really busy with my job during the week and can't practice the radio ham. Every morning I can operate top band (160M) because I get up early. Inverse during the weekend, I'm more active during the daylight hours.

AJ8B: Any secrets to your success?

F8PDR: Success is a big word. The best way to achieve success is to become a good listener first. You must focus your on what you receive. Unfortunately, most ham radio don't practice this.



AJ8B: Any tips that you can share?

F8PDR: As I said in my previous reply, you must listen carefully and be patient. You need also to choose the best time. You will also escape the huge pile-up.

AJ8B: Describe what you are currently using:

F8PDR: My setup is :
Software logbook logger 32

I have two rigs :

- ◇ Icom:IC 756 first generation who works really well for CW with the filters, and microphone
- ◇ Kenwood MC 60 for SSB
- ◇ Power Amplifier Ameritron of 1.3 KW in case in I can't get the contact
- ◇ Icom 7300 also for SSB and DATA, with home made 500W amplifier

For VHF

- ◇ Kenwood TR751 2m 100w.

(cont. on next page)

Interview with F8PDR—Benoit (*cont.*)



First Tower of 55 feet higher with

- ◇ Optibeam OB 11/5 with three elements for the 20/17/15/12
- ◇ Five element Yagi for 10M
- ◇ Six element Yagi for 6M
- ◇ Eight elements for 2M



Second Tower 65 feet higher with

- ◇ Two elements for 30M HB9CV (homemade)
- ◇ Three elements on 40M(home made)

- ◇ Inverted L for the topband 160 M
- ◇ 21M vertical antenna for 80M
- ◇ 20 m higher wire antenna, 160M and 80M ground plane with 20 radials 20M long and another 20 radials 40M long
- ◇ For receive I have two beverages reversible of 200M installed just during the winter in the neighbors fields.



AJ8B: What advice do you have for those of us trying to break pileups to work DX?

F8PDR: Listen to how the DX works, check the split and when I can hear the DX, I set my equipment near the frequency. I don't want to disturb the pile up. Try to call at the good time between the big guns.

AJ8B: You are a veteran of many DXpeditions. Is there one that really stands out and why?

F8PDR: There are two things : the first one is not an expedition but a special event. I live in Normandy, the theater of the biggest military operation of the 20th century.

(Cont on Next Page)

Interview with F8PDR—Benoit (*cont.*)

During this special event, a band of friends were able to get a special call sign, TM6JUN, operating from the landing spot at Utah Beach.

On the 60th anniversary I was able to operate from a station that was installed in the bunker where the first American transmitters sent this message in Indian language (the transmitters were Indian) “The beach is liberated and the war against nazism was beginning.”

Imagine the feeling for the ham radio team who commemorate this souvenir.



The second thing was my expedition to Mauritania in 2007. We were welcomed by heavily armed soldiers at the airport. Fortunately, my friends 5T0JL Jean (SK), and Nicolas 5T5SN now TT8SN, were waiting for me. We did 7,000 contacts, during 10 days when I could transmit and when there was no sandstorm. A G5RV, a R7000 and 100 watts was our station, but Mauritania was very requested at DXCC at that time.

AJ8B : Where are you going next ?

F8PDR: I don't know exactly. I went to the island of Guadeloupe two years ago where I met

Jean Pierre, TO7D/F6ITD, on the island of Desirade. It was great to participate in the CQWW from those places.

AJ8B: What is your favorite contest?

F8PDR: My favorite contest is definitely ARRL 10m when the band is open. I had participate from the big gun Normandy stations Yann F5UTN and Jacques F6BEE for the CQWW CW. Also, I like to participate to the USA QSO Party. I try to improve my US counties award (about 1,600 counties already contacted)

AJ8B: Any QSLing hints?

F8PDR: I like to receive QSL cards because I participate in many challenges beyond the DXCC such as IOTA, the US counties, the Russian RDA, German DOK, Japanese JCC etc etc. I always reply the cards I receive.

Inversely, I ask for a QSL if the entity was not confirmed. I also use LOTW; it's very convenient but without QSL Card.

AJ8B: What coaching/advice would you give new amateurs?

F8PDR: If you make dx, spend time to listen, it is essential, the dx will be easier, for the rest respect the rules of good conduct so that everyone enjoys the radio waves

AJ8B: If I were to stop by for a visit, what local place would you want us to visit?

F8PDR: Mt. St. Michel because I live a few kilometers away. For a moment in history, it is also the landing beaches.

(cont. on next page)

3Y0J Issues.....

At our last two meetings, SWODXA discussed making a donation to the Bouvet DXPedition was brought up and tabled each time. Both times I was very surprised that there were a range of viewpoints on SWODXA funding this DXPedition. Since NCDXF and IOTA both made the largest donations ever for each organization, and each would have been presented to by the DXPedition group, I was surprised that we would not just “rubber stamp” this one.

The two issues that seem to be at the top of everyone's list was the type of boat chosen and the landing site/lack of a helicopter. The SWODXA DX Grant committee had recommended that we go forward with the donation, but the general membership was not able to reach consensus on supporting the recommendation. So, as a member of this committee, and with Joe's (W8GEX) help, I contacted two of the participants to get an accurate and detailed answer to each issue.

I sent an email to Co-Leader, Ken, LA7GIA, regarding the landing site. I sent a similar email to Adrian, KO8SCA, regarding the boat. I have reprinted their responses on the next several pages.

Although I was confident before these issues were expressed, I am more confident now about the attempt and the success of this DXPedition after reading their responses. I have made a personal donation and I would encourage all DXers to do the same. For this group, they have a special donation “package” - for \$26 you will be included on all of the Zoom team meetings. Just sayin....

(cont. on next page)

Interview with F8PDR—Benoit (*cont.*)

AJ8B: What local food would you want me to try?

F8PDR: *Escalope de veau a la crème with un verre de cidre bien frais* which is veal escalope with the cream milk and a glass of fresh cider. Also, *Tarte normande*.

This is an apple pie with a filling of flour, eggs, cream, sugar and a little calvados drink.



3Y0J Response (cont.)

“7 stones at Cape Fie - 3Y0J logistics.”

We have been working on the logistics since April 2020 when we started planning this DXPedition. Since then we have worked closely with the Norwegian Polar Institute (NPI), we have retrieved close-in high resolution photos that has not been public before, and we have videos and material that all together gives us a very good overview of the QTH @Cape Fie. The QTH is roughly 60m/200ft from the shoreline, at roughly 18m / 60 ft ASL. To illustrate this, see the photo below of the 7 stones at Cape Fie – two photos taken over 3 years. You will see the 7 stones have the exact



same position. Our knowledge of the site is so good that we can compare details like this and see the exact location and surface we will setup camp. Be rest assured that our planning will be equally focused on details especially when it comes to safety and logistics.

For logistics we're working with several Norwegian professionals in the maritime industry. We have an off-island team of Norwegian experts we visit, run meetings with and talk to and they participate in the construction of equipment. Some have been at Cape Fie doing zodiac landing, some have stayed anchored at Cape Fie at the exact point we will stay, some of these Captains have stayed around Bouvet for several seasons, and one Captain has passed Bouvet 60 times (!). These are Captains with a huge amount of experience, maritime safety training, maritime risk assessment and RIB SAR vessels and they are participating actively in the 3Y0J project.

One of our team members will be partly crew/partly operator. He specializes in sourcing expedition yachts and sailing yachts in remote locations. He also performs diligence of vessels, handles the training of crew and passengers, trains in man overboard maneuvers (MOB), is a skilled zodiac operator and Captain of a former Whitbread boat. The Captain of the Marama also has vast experience from Polar Expeditions in the Arctic and Antarctica. Thus, we have an extended team of highly qualified and skilled persons with knowledge from Bouvet, the South Atlantic Ocean and professionals within the maritime industry. Having access to such experienced people adds a lot to the knowledge and project of this size.

(Cont on Next Page)

3Y0J Response (cont.)

Currently we have planned, constructed and will be testing a system for landing zodiacs safely with and without people. This will be tested in rough seas in Norway before and after Christmas. We plan for several systems and techniques, not only one. We have also planned for safely landing the zodiacs with some swell, unmanned and without risk. We will also prepare for capsizing the zodiacs then retrieving the equipment in addition to landing in good weather. We have planned for various scenarios and weather conditions and will implement a strategy to take advantage of short weather windows.

We are developing a stepwise approach where we plan to build the camp slowly with some stations and antennas even with a short weather window of 60 minutes. We have done the first preliminary sea trials of the zodiac equipment in Norway and will continue sea trials to further mature the concept and equipment. We have planned and will construct a gasoline powered winch system to lift equipment up the cliff. We have procured some materials from Colombia and will construct and test this before and after Christmas in Norway.

Paramount is that we also plan for other lifting techniques and equipment, like non-electric systems as well as using traditional ropes – we never put all of our eggs in the same basket! We plan to access the cliff with professional means; we have NPI special permission to bolt a short route if needed to access the 20-30 ft cliff, but we can also access it with ladder and rope. We plan to lift the equipment further up the cliff. In total we estimate roughly 4.5 metric tons including fuel and water will be lifted up. We have refreshed our climbing experience with some team members being certified climbers.

In 2022 we will practice safe evacuation down the cliff with an instructor who will also be at Bouvet. We will also practice emergency evacuation with injured operators down the cliff. We will have IRATA educated instructors training with us. Additionally, we will practice a MOB maneuver as one operator has a huge amount of experience within this field.

This is a very expensive trip with an overall budget of \$650,000 and it is clubs like SWODXA that make DXing happen. Without upfront support we could simply not do it. Thank you for your personal donation and for SWODXA considering a donation,

Please also encourage your team members to do additional individual contributions, this is needed, and much appreciated. We still need \$190,000.

73 Ken

(cont. on next page)



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DX Engineering's Amateur Radio Blog for New and Experienced Hams

Visit OnAllBands.com every day for information you can use to improve your on-air experience.

3Y0J Response (cont.)

Hi Bill,

Nice to hear from you! Any questions regarding our plans for the 3Y0J DXpedition to Bouvet Island are welcome. Informed decisions are the best decisions!

In fact the 3Y0J team leaders had Zoom meetings with both NCDXF and INDEXA to answer in detail all their questions, similar to yours.

After those meetings the board of directors for these 2 large organizations were convinced that the chosen boat along with our DXpedition plan are solid and as such both organizations awarded 3Y0J their largest donations ever! NCDXF wouldn't have awarded us \$100K without first vetting our boat and plans.

The Norwegian 3Y0J team leaders have hired a marine consultant with 30 years of experience to find a boat based on our specific requirements and our destination. The consultant is specialized in helping scientific expeditions, similar to ours, achieve their goals in harsh climates. He researched vessels and found our boat; and he is also designing our landing plan and procedures and he will be joining us to Bouvet.

For the past 12 years, Marama has been sailing to the Arctic, Antarctic, South Georgia, the Northwest Passage etc. for scientists and tourists alike, so the skipper and crew are familiar with the cold harsh climates.

The boat Marama is an oceanic ketch (sailboat with 2 masts) also equipped with an engine, 101 feet in length with plenty of space for the team and our equipment. The website will show pictures, details and the current boat location: www.maramaexpeditions.com

Our website has a wealth of information and pictures about the DXpedition plan, the team and the boat: www.3y0j.com.

Please pass the attached 3Y0J support letter (PDF format) to the members of your club. (Next two pages—Bill)

Feel free to ask any questions. We could also speak on the phone if you need additional details.

Have fun and enjoy the radio!

73,
Adrian
KO8SCA

(cont. on next page)

3Y0J Response (cont.)

Financial Support Request for 3Y0J Bouvet Island DXpedition November 2022



GREETINGS:

We are a team of 11 international amateur radio operators who, in November 2022, will be sailing to, and operating from, Bouvet Island with the goal of making at least 120K QSOs.

The purpose of this letter is to ask for your financial support to get this rare DX entity in the logs of many amateur operators around the world.

Bouvet Island is a small Norwegian inactive volcanic island, half the size of Manhattan, covered almost entirely by snow and ice. Because of its remoteness, it has rightfully gained the title of the most remote uninhabited island on Earth. Bouvet Island is listed in the ClubLog DXCC at position #2, making it, for the ham radio world, the equivalent of the Mount Everest of the DXCC entities.

Our DXpedition, with the callsign 3Y0J, will start its journey in the Falkland Islands, and we anticipate sailing for 12 days through the treacherous waters of the South Atlantic Ocean before setting up camp, and operating from, Bouvet Island for 14-18 days. At the conclusion of our DXpedition, we will then sail another 12 days to the end point of the DXpedition: Cape Town, South Africa

Our goal is to set up and operate simultaneously from 8 stations, with full legal power (1500W), on 10M through 160M including 60M in CW, SSB, RTTY and FT8, but our main focus will be on the "human" modes.

The preparations for this complex endeavor are well underway. The 3 Norwegian co-leaders together with the team members have been working tirelessly for the past 2 years with the Norwegian Polar Institute as well as with experts and consultants who have already visited Bouvet Island or are knowledgeable about overcoming the difficulties of getting to, landing on, setting up camp and operating from Bouvet Island, an island battered by over 300 storms a year and by winds that often reach 100 miles an hour.

We are very close to raising the necessary funds to cover our estimated budget of \$650,000, which will make 3Y0J the most expensive DXpedition ever. The vast majority of these funds will be used to cover the expense of our chartered boat, the 101-foot Oceanic Ketch, named

3Y0J Response (cont.)

Financial Support Request for 3Y0J Bouvet Island DXpedition November 2022

Marama, which will take us to and from Bouvet Island. Each 3Y0J team member is contributing \$20,000 toward this budget.

NCDXF (Northern California DX Foundation) and INDEXA (International DX Association) have already showed their amazing support to our project and made their largest donations ever, totaling \$115,000. Many other organizations and clubs around the world have followed suit, and we hope your club will be able to contribute as well. Your support would be highly appreciated.

Please visit our website: www.3Y0J.com to donate, to read more about our project, the team, the latest news or to learn about the complex preparations the team is engaged in to ensure a successful and safe project.

We thank you in advance for your financial support and we look forward to working you from the most remote uninhabited island on Earth!

Regards,
3Y0J Team

3Y0J Co-leaders:



3Y0J Team members:



Announcement: CROZET 2022

Provided by Bernie, W3UR

Dear friends,

Further the announcement by Jean-Michel F6AJA, we would like to inform of the following :

After many months of efforts and negotiations, the TAAF (the body in charge of the FTs administration) has granted permission for a one-man nearly 3-month operation from Crozet Island to Thierry F6CUK, from mid December 2022 to mid March 2023 (be patient !) Exact dates will come just prior to the operation. The last activity from Crozet was in 2009 by Florentin F4DYW as FT5WQ.

Details will be forthcoming in the next few days, weeks and months, when they become available and publishable. Thierry F6CUK will be the operator, Paul F6EXV will be the finance/ QSL manager. Please do not try to contact either Thierry F6CUK or Paul F6EXV for the time being, there will be no reply to any messages related to this operation until further notice.

Stay tuned !

73

Paul

PS For the first time, this will be a ham radio operation, not a scientific mission with ham radio as a side activity.



The "No-Excuses" 160 Meter Vertical - Part II

This is part II of the article by John Miller, K6MM. I will have Part III in the January newsletter with my modifications and results. You can reach John at k6mm@arrl.net.

This article originally appeared in QST, June 2009. The entire article is available on John's website, www.k6mm.com.

This was reprinted with the permission of John.



Step 6. Helically Winding The PVC

With the sections assembled and fortified, the antenna is ready to be helically wrapped with wire. As previously mentioned, experimentation with HWVs has shown that a half wavelength of wire is often needed for quarter wave resonance, assuming the turns are evenly spaced. At a desired resonance frequency of 1.825 MHz, 256 feet 5 inches of wire is required for a 160 meter vertical, using the formula $468/\text{freq.}$ For this first version of the antenna, I chose #22 insulated wire for the antenna — I had a good supply sitting in the garage.

Using our kitchen table, which measures 5 feet long and a coffee can with 2 large screws protruding from sides at the top and bottom 180 deg apart (to keep the wire from falling off the can as it was being wound), my XYL "unwound" the wire from the supply spool, while I wound it onto the coffee can. 50 times across the kitchen table = 250 feet + an additional 6 feet 5 inches did it. The wire was cut, adding a few extra inches for experimentation, but keeping the 256 feet 5 inch point marked.

Wrapping begins by first attaching the antenna wire to the Bottom Antenna Binding Post of the 2 inch PVC section using a spade or ring solder lug. The wire is then wound from bottom to top, being careful to keep the

"winding pitch" as consistent as possible, and avoiding the bolts near the two PVC joints.

A spacing of about $\frac{1}{2}$ inch seemed to work well. Wire wrapping is not a difficult step, but does require a bit of

patience. It's best not to rush this part of the project. Duct tape is helpful here every few feet to keep the windings secure (see Figure 9 above). In a later version of this antenna, I hot-glued the antenna wire to the PVC for even better protection.

The end of the wire at the top of the antenna is then soldered to a spade or ring tongue and attached to the Top Antenna Binding Post with the red cap at the top of the 1" PVC section.



(cont. on next page)

The "No-Excuses" 160 Meter Vertical (cont.)

Step 7. Top Cap Preparation: Capacitance Hat

There are several designs for a suitable HWV capacitance hat to provide capacity termination and reduce noise. At first, I chose the "circular hat" design described by Jack Swinden (W5JCK), where six 12 inch brass rods are spaced equally around a PVC cap, and soldered together.² However, I eventually settled on a simpler "square hat" design using two 36 inch brass rods spaced 90 degrees apart, and connected together with #14 gauge copper wire.⁹ Either of these methods work well. The "square hat" design is described next.

The square hat construction begins by drilling four 1/8 inch hole 90 degrees apart in the 1 inch PVC cap, about 1 inch from the bottom. An additional 1/8 inch hole is drilled next to one of these holes. The brass rods are inserted into the cap, forming an "X". A pair of pliers is helpful here, as it will be a snug fit, which is what you want.

Next, a 6 inch piece of #14 insulated wire is stripped on one end, and soldered to a spade or ring lug on the other end. The stripped end is slipped through the remaining 1/8 inch hole and wrapped securely around the "X" junction of the two brass rods inside the PVC cap, where everything is securely soldered (see Figure 10). The brass rods are tied together externally by connecting them together with #14 gauge bare copper wire in two places: the tips of the rods and also midway between the rod ends and PVC cap. The bare copper wire is soldered to the brass rod at all 8 intersections, to complete the "square hat" (see Figure 11).

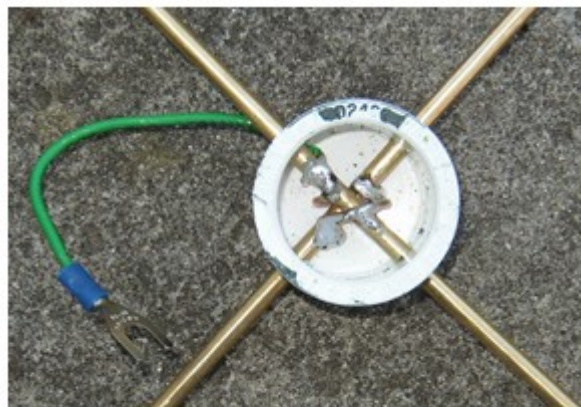


Figure 10. Inside Top PVC Cap



Figure 11. Completed Square Hat

Finally, the PVC cap is attached to the Top Section of the antenna, and the capacitance wire secured to the Top Antenna Binding Post using the spade or ring lug. For maximum result, it's important to have a good electrical connection between the antenna wire and capacitance hat.

(cont. on next page)

The "No-Excuses" 160 Meter Vertical (cont.)

Step 9. Bottom Cap Preparation

The bottom cap is used to support and protect the antenna. A ¼ inch hole was drilled in the center of a piece of scrap plywood (about one foot square). Another ¼ inch hole was drilled in the bottom of the 2 inch PVC cap. The threaded aluminum rod was trimmed to 12 inches, and run through the bottom PVC cap,



Figure 12. Bottom Cap on Plywood

and then through the plywood (see Figure 12). Nuts and washers were attached on the threaded rod inside the cap and also on the other side of the plywood. When tightened, only 2 inches of rod was left inside the cap, to ensure that the antenna and ground wiring in the bottom section of the mast would not be disturbed (see Step 2). About 10 inches of threaded rod was left sticking out from the bottom of the plywood (see Figure 13). The



Figure 13. Showing Threaded Rod

plywood base serves as a stabilizing platform to ease final installation of the vertical. By gently standing on it and pushing, you can easily drive the 10 inches of threaded rod into the ground.

After the PVC sections were bolted together, and completely wire wrapped, the capacitance hat was attached to the top of the antenna, including the capacitance wire-to-antenna binding post connection. The antenna is now ready for final installation (see Figure 14). The bottom 2 inch PVC cap/plywood base was set in the ground at its mounting location. Bracing the bottom against the ground, the antenna was carried to the PVC cap/plywood base and carefully set into the PVC cap. One person can carry & mount the antenna but it's a bit easier with two folks (see Figure 15).

(cont. on next page)



Fig 15. Installed and Neighbor Friendly

The "No-Excuses" 160 Meter Vertical (cont.)

My QTH required bracing the mast to my back fence and securing it at the 6 foot point with nylon rope. To keep the vertical, "vertical", a section of nylon rope was also attached at 12 feet using a convenient tree limb and the rope secured at ground level. Final guying/bracing will depend upon your antenna placement.

Radial Wires: This antenna does require some ground radials. Of course, use as many as your QTH allows. I started with four 1/4 wavelength ground radials cut for 160 meters and have expanded that number now to eight, using #16 stranded insulated wire. Spade lugs are soldered to ground radials which are then attached to one of the two ground posts. Because of the geometry of my property, my radials cover only a 180 degree arc but they work pretty well.

Initial Readings: After attaching a 6 foot piece of 50-Ohm coax, an MFJ 249B antenna analyzer showed resonance close to 1.790 MHz. The antenna wire was adjusted at the bottom to bring the resonance closer to 1.830 MHz. Running 500 watts through this antenna without a tuner showed a 50 KHz bandwidth, with <2:1 SWR. With a tuner, the antenna can be adjusted anywhere from 1.800 to 1.900 MHz with an SWR under 2:1.

Version 3.0 - Update

After a few months of use, I took down the antenna and decided to fortify the antenna wire by hot gluing it to the PVC. While on the ground again, the entire antenna was re-wrapped using 4-conductor #18 wire stranded wire – I had a good supply sit-

ting in the garage. At each end of the antenna the ends of the 4-conductor wire were twisted and soldered together before wrapping and attaching to the Top and Bottom antenna binding posts. I also added two elevated radials around the fence line (see Figures 16 and 17).

Although I have not done any side-by-side comparisons, this updated version of the antenna appears to "hear" better, and feedback on the air tells me that I have a somewhat stronger signal. However it is not necessary to use 4-conductor wire with this antenna. A single conductor works just fine, and is easier to wrap around the PVC tubing.

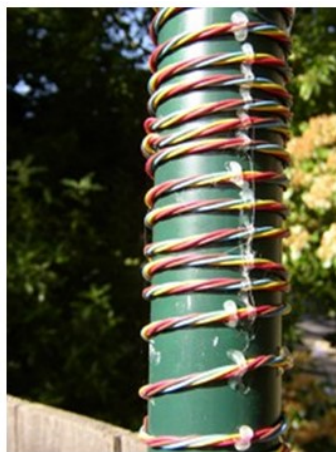


Figure 16. Re-wrapped, Hot Glued



Figure 17. Latest Version

(cont. on next page)

Pioneers of Physics, Mathematics, and Electronics

This is the second in our Pioneers series. Last newsletter was William Gilbert, 1544—1604. This newsletter features Francis Hauksbee. Hope you like this.

Francis Hauksbee—Inventor¹ 1660—1713

Francis Hauksbee was the son of draper and common councilor Richard Hauksbee and his wife Mary. He was baptized on 27 May 1660 in the parish of St Mary-at-the-Walls, Colchester.¹ He was the fifth of five sons. In 1673 Hauksbee entered Colchester Royal Grammar School. From 1678 to at least 1685 he apprenticed as a draper in the City of London, initially to his eldest brother. He was married no later than May 1687, when a daughter was born. Five of his eight children survived infancy.¹ From 1687 to 1703, he may have run his own drapery shop.² From at least March 1701, he lived at Giltspur Street, where he made air-pumps and pneumatic engines.¹

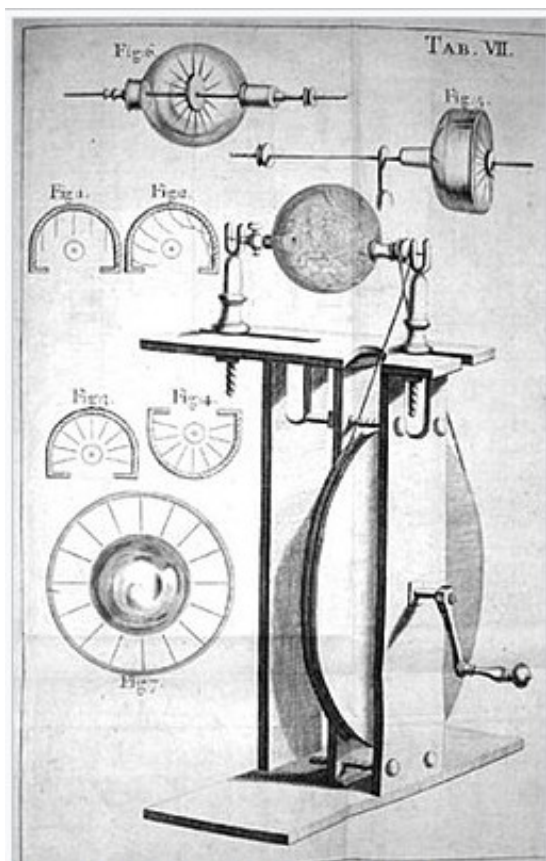
The transition from drapery to scientific instrumentation and experimentation is not well documented.¹ Historians have had to speculate about the events that lead to Hauksbee engage-

ment with the Royal Society. Hauksbee became Isaac Newton's lab assistant. He became a member of the Royal Society on 30 November 1703.³ On 15 December 1703, he made his first experimental demonstration to the Society (a new air-pump and the phenomenon of 'mercurial phosphorus,' a kind of electrostatic discharge).¹ This was also the first meeting chaired by Isaac Newton, who had just become president of the Society, and wished to resurrect the Royal Society's weekly demonstrations.⁴

Hauksbee was an instrument maker and appointed as chief experimentalist of the Royal Society. He was never formally appointed as Curator of experiments, even though he fulfilled the functions customarily associated with that office, and he never received a fixed salary.¹ He was elected a Fellow of the Royal Society on 30 November 1705,^{5,6} with lowest social class status among the previously-elected Fellows.¹

By 1709 Hauksbee had established himself at Wine Office Court, and by 1712 at Hind Court, both near Fleet Street and the Royal Society's house at Crane Court.¹

(cont. on next page)



Generator built by Francis Hauksbee.
From *Physico-Mechanical Experiments*, 2nd
Ed., London 1719

Francis Hauksbee—(cont.)

He died at Hind Court and was buried in St Dunstan's-in-the-West, London on 29 April 1713.¹ John Theophilus Desaguliers succeeded Hauksbee at the Royal Society, appointed as Demonstrator and Curator in 1714, by invitation from Isaac Newton, who was still President.⁷

Scientific Contributions

Hauksbee's primary contributions were that he was a talented scientific instrument-maker⁸ and a creative experimenter, who was able to discover unknown and unexpected phenomena, especially his observations about electrical attraction and repulsion.⁹

Until 1705, most of these experiments were air pump experiments of a mundane nature, but Hauksbee then turned to investigating the luminosity of mercury which was known to emit a glow under barometric vacuum conditions.

He was the first to observe, in the early 1700s, that it was possible to use glass for electrical experiments.¹⁰

By 1705, Hauksbee had discovered that if he placed a small amount of mercury in the glass

of his modified version of Otto von Guericke's generator, evacuated the air from it to create a mild vacuum and rubbed the ball in order to build up a charge, a glow was visible if he placed his hand on the outside of the ball. This remarkable discovery was unprecedented at the time. This glow was bright enough to read by. It seemed to be similar to St. Elmo's fire. This effect later became the basis of the gas-discharge lamp, which led to neon lighting and mercury vapor lamps. In 1706 he produced an 'influence machine' to generate this effect.¹¹

Hauksbee continued to experiment with electricity, making numerous observations and developing machines to generate and demonstrate various electrical phenomena.

In 1708, Hauksbee independently discovered Charles's law of gases, which states that, for a given mass of gas at a constant pressure, the volume of the gas is proportional to its temperature.¹²

¹ All footnotes and the text is from: https://en.wikipedia.org/wiki/Francis_Hauksbee



N3FJP

Amateur Radio Software®

Mt. Everest, 1933—Radio at the Roof of the World

By Philip Cala-Lazar, K9PL.

I read this article in the K9YA Telegraph. An excellent publication and Philip, K9PL, kindly gave me permission to reprint it here. Check them out at www.k9ya.org for more information!

Nearly scraping the stratosphere at 29,032 feet, the summit of Mount Everest challenged generations of surveyors, mountaineers and adventurers.

British teams first attempted the ascent of the world's highest mountain in 1922, followed by expeditions in 1924, 1933 and 1936 that failed to reach their goal. Finally, during another British Mount Everest Expedition, on May 26, 1953, Edmund Hillary and Tenzing Norgay succeeded in scaling the summit.

The 1933 Expedition

For the 1933 British Mount Everest Expedition, March 3-May 30, a major innovation in mountaineering was suggested and accomplished thanks to the efforts of David S. Richards, a wireless pioneer "in its business... scientific and practical aspects." Richards convinced expedition leader Hugh Ruttledge, "late Indian Civil Service," to include a wireless section that would leap mountaineering technology forward, greatly enhancing communications and safety. Radio would serve to facilitate communications between advance climbing party camps and the main station near Darjeeling, India where "a powerful commercial-type transmitter" was erected. That transmitter would enable "Meteorological observations taken in the Himalayas [to] be instantly conveyed to weather au-



BASE CAMP, SHEWING MT. EVEREST IN THE BACKGROUND AND WIND-GENERATOR ON THE LEFT OF THE PICTURE.

thorities in India." Significantly, those observations would also provide expedition members with forecasts of weather conditions they would likely encounter on the mountain.

There were, however, two obstacles to its implementation, the money to equip a wireless section was not included in the expedition's budgeting and "...any plan including the use of wireless equipment also necessitated the consent and cooperation of the [Daily Telegraph] newspaper which had secured the copyright interest in the story of the expedition's activities."

(cont. on next page)

Mt. Everest (cont.)

In time, thanks to combined financial and material assistance from individuals, including Mr. Richards and Lord Wakefield (William Wavell Wakefield) of Rediffusion, and from commercial sponsors who supplied transmitters, receivers, batteries and ancillary gear, the wireless section was funded and equipped and, eventually, the Daily Telegraph agreed to its formation.

Implementation

Richards set up the main wireless station in a military residence bungalow atop Katapahar ridge, Darjeeling, at an elevation of 8,000 ft. and approximately 111 miles from Mt. Everest. There, the Standard Telephone & Cables Ltd. TS2A 200-watt transmitter sent (encoded to protect its copyright) news of the expedition's progress to the rest of the world via the Daily Telegraph. The "high power commercial job" with a tuning range between 75 metres (3.99 MHz) and 800 metres (374 kHz) was powered by Siemens "Super Radio Full O' Power" H.T. 200-volt batteries at 25 ma, with "Full O' Power" standard capacity, size H.2, 70-volt balancing batteries at 0.5 ma. Standard Telephone & Cables Ltd also manufactured the 15-valve main receiver at Katapahar. It was backed up with a General Electric shortwave receiver and a Philips type

2802 "all-wave" for Morse and telephony reception.

The wireless section's personnel included four Royal Corps of Signals wireless operators, provided by the Government of India at New Delhi, Lieutenants E. G. Thompson and W. R. Smijth-Windham, who accompanied the expedition, and two NCOs, Sergeant N. Watt and Corporal W.J. Frawley, who assisted Richards at Katapahar. Primarily CW and some voice transmissions were used during the expedition.

The expedition's base camp was located at the foot of Rongbuk Glacier at 16,800 ft. This was the location where summit ascents through Tibet began, Nepal being closed to outsiders during this period. The base camp was equipped with a lightweight Standard aircraft-radio ATR-3, transmitter and receiver supplied by Standard Telephone & Cables, Ltd. of London. The unit, originally designed for use in single-seat aircraft, offered the advantages of low weight and ease of control. Richards described the camp's wireless complement as "a five-valve (indirectly-heated) transmitter including a master oscillator, two modulators, two amplifiers in push-pull configuration. Two receivers: a five-valve superheterodyne A.R. 3 and a three-valve 'high frequency-det-L.F.' R.M. 5. High-tension supply by rotary transformer [rotary converter] driven by two low-tension accumulators [batteries]. Low-tension supply by two parallel banks of accumulators comprising three 'Young' 4-volt, 80-ampere hour cells. Batteries were charged by a [2-stroke] Stuart Turner generator set and a standby windmill electric generator."



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(cont. on next page)

Mt. Everest (cont.)

The transmitter could be pre-tuned to two switch-selected wavelengths, no crystals or coils to change. It provided communications back to Darjeeling and forward to Camp III located at 21,000 feet at the head of Rongbuk Glacier in the vicinity of the “final climbing operations.” Additional power needs were supplied by “Super Radio Full O’ Power” H.T. batteries (150 v. at 15 ma, 200 v. at 20 ma and 150 v. at 30 ma) and a “special generator built by the Electro-Dynamic Construction Co.”

Unfavorable weather conditions at the outset made radio messages almost impossible, but when they improved, three-way communication was established and greatly assisted towards the success of the [wireless] undertaking.

At Camp III, Smijth-Windham constructed the advance camp wireless receiving and transmitting station utilizing a special portable transmitter constructed by two members of the Radio Society of Great Britain, Reg Loomes, G6RL, and N.E. Read, G6US. From there a telephone wire was run, “with immense labour,” to Camp IV at 22,500 feet.

Meet the Hams

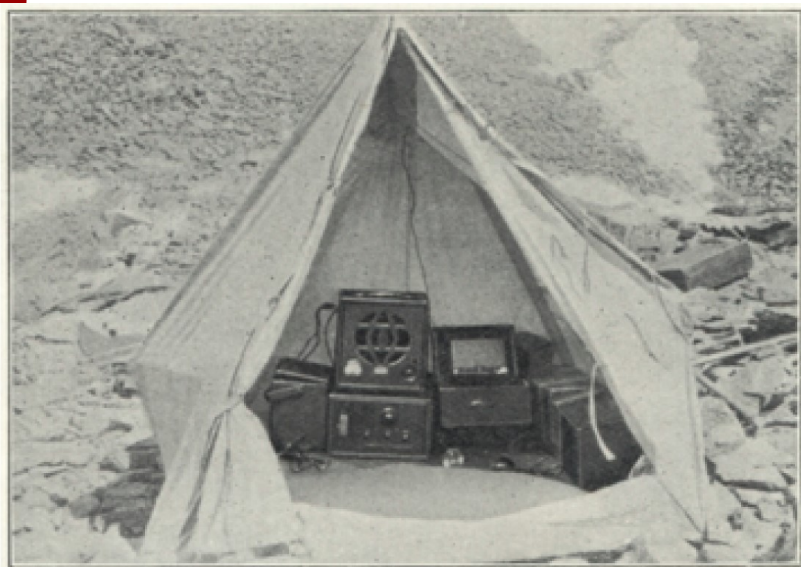
Three amateur radio operators contributed technical, material, logistical and operational support to the expedition.

L.W. Ford, VU2CS, “well known British amateur in India,” and H.E. Governor of Bengal Orchestra, volunteered his “experimental wireless station” and joined the expedition’s wireless section at Darjeeling. His battery-powered, crystal-control, push-pull transmitter operated on 41 metres (7.31 MHz) and 20 metres (14.98 MHz), was reported to produce high quality telephony signals and “was connected up with the main station in Katapahar by private telegraph and telephone circuits.” That arrangement permitted remote control of voice and telegraphy operation and was assigned the call sign VUD.

G6RL and G6US

Comporting with 20th century standard operating procedure for expeditions, scientific investigations, and record-breaking competitions, the leaders of the Everest Expedition sought the assistance of amateur radio operators. *The vital link between the explorers of the Mount Everest expedition and their base camp will be a radio set designed by two London amateur transmitters. This radio link will be used to relay to the base by radio any message from the advance party. The organizers of the expedition applied to the Radio Society of Great Britain when they decided to use radios as a means of communication, and the Society found volunteers in two young amateurs known by the call signs of their respective stations as [Reg. Loomes] G6RL and [N.E. Read] G6US, who are partners in a radio concern [Loomes Radio Co., Ltd.] in Earl’s Court Road, W.8.*

(cont. on next page)



INTERIOR OF WIRELESS TENT AT CAMP III (21,000 FT).

Mt. Everest (cont.)



The portable Loomes and Read transmitter was based on a 50-watt ex-War Department Mark III trench Morse set operating on wavelengths of 60 (4.99 MHz), 85 (3.52 MHz) and 110 (2.72 MHz) metres. It was a two-valve (Mullard PM-4) set with six spare valves carried in reserve. High voltage was supplied by an Evershead hand-cranked generator providing 600 volts at 30 ma, supplemented by a bank of 45-volt “Full O’ Power” batteries and low voltage supplied by Siemens inert cells (energized by the addition of water) supplying 600 ma at 2 volts, and “Full O’ Power” 9-volt grid bias batteries. The transmitter, built for “very hard and rough usage” into an enclosure of half-inch hardwood, was encased in canvas for weather

protection, and equipped with folding legs. Compact, when closed, it measured only 9 in. by 9 in. by 11 in. and weighed about 40 lbs.

The receiver at Camp III was a four-valve “colonial model of Messrs. McMichael, known as the ‘Supersonic’.”

Epilog

Ultimately, and attributed variously to some poor strategic and tactical decisions, abysmal climbing weather, an early monsoon season, illness and injuries, the expedition did not succeed in summiting Mt. Everest. However, it succeeded superbly in its introduction of wireless to mountaineering and paved the way for future expeditions. It was also hailed for providing the British military with practical experience in high altitude wireless operations.

Expedition Film

https://www.youtube.com/watch?v=XNiqAbyCLOI&ab_channel=HuntleyFilmArchives

Resources

The Himalayan Journal, Vol. 6, 1934

Jack Hum Call Book: 1920 - 1930, Researched and Compiled by Deryk Wills, G3XKX, n.d.

Journal of the Royal Society of Arts, “Wireless Communications with the Mount Everest Expedition,” David S. Richards, Wednesday, March 21, 1934

Practical Wireless, Feb, Mar., Jun., Nov. 1933

Radio Amateur Callbook, Spring 1933

Wireless Engineer, Dec. 1932

Wireless World, Feb., May, Jun., Dec., 1933

World at their Fingertips, John Clarricoats, G6CL, RSGB, Potters Bar, 1993, ISBN 0 900612 09 6

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SouthWest Ohio DX Association (SWODXA)

Club Fact Sheet

Who We Are: *SWODXA* is comprised of active DX'ers and contesters with a deep passion for all aspects of Amateur Radio. We welcome everyone who is interested in joining our club to please contact us. *SWODXA* members are active in all facets of DX and Contesting. We also travel to, and fund various DXpeditions all over the world. *SWODXA* sponsors the annual DX Dinner held on the Friday evening of Hamvention weekend in Dayton, Ohio. In addition, *SWODXA* members moderate the Hamvention DX Forum. *SWODXA* is proud sponsor of the prestigious *DXpedition of the Year Award*.

DX Donation Policy: The policy supports major DXpeditions that meet our requirements for financial sponsorship. Details are available on the website at: <https://www.swodxa.org/dxgrant-application/> and elsewhere in this newsletter

Club History: The Southwest Ohio DX Association (SWODXA) is one of the country's premier amateur radio clubs. Though loosely formed in mid-1977, the club had its first formal organizational meeting in August of 1981 where Frank Schwob, W8OK (sk), was elected our first President. While organized primarily as a DX club, SWODXA members are active in all aspects of our hobby.

Requirements for Membership: We welcome all hams who have an interest in DXing. It doesn't matter whether you're a newcomer, or an old-timer to DXing; everyone is welcome! Visit <http://swodxa.org/member.htm>

Meetings: The club meets on the second Thursday of each month alternating locations between at Marions Piazza on Kingsridge Dr. in Dayton, OH or Marions Piazza in West Chester. (Check the website) Members gather early in the private room for dinner and then a short business agenda at 6:30 PM, followed by a program. If you enjoy a night out on the town with friends, you'll enjoy this get together. Meeting attendance is NOT a requirement for membership.

Club Officers: Four presiding officers and the past president (or past VP) make up the Board of Directors. The current roster of officers are: President Tom Inglin, NR8Z; Vice President Kevin Jones, W8KJ; Secretary Mindi Jones, KC8CKW, and Treasurer Mike Suhar, W8RKO.

Website: We maintain websites at www.swodxa.org and www.swodxaevents.org managed by Bill, AJ8B. These sites provide information about a variety of subjects related to the club and DXing.

SouthWest Ohio DX Association (SWODXA)

DX Donation Policy

The mission of SWODXA is to support DXing and major DXpeditions by providing funding. A funding request from the organizers of a planned DXpedition should be directed to the DX committee by filling out an online funding request.

(<https://www.swodxa.org/dx-grant-application/>)

The DX Grant committee will determine how well the DXpedition plans meet key considerations (see below). If the DX Grant committee recommends supporting the DXpedition in question, a recommended funding amount is determined based on the criteria below. The chairman of the committee will make a recommendation at the general meeting on the donation.

Factors Affecting a DXpedition Funding Request Approval

DXpedition destination	Website with logos of club sponsors
Ranking on the Clublog Most Wanted Survey	QSLs with logos of club sponsors
Online logs and pilot stations	Logistics and transportation costs
Number of operators and their credentials	Number of stations on the air
LoTW log submissions	Bands, modes and duration of operation

H40GC	H44GC	ZL9HR	XX9D	HK0NA	FT4TA
KH1/KH7Z	EP2A	FT5ZM	C21GC	VK9WA	NH8S
K4M	CY9C	VK9MA	PT0S	FT4JA	YJ0X
6O6O	VP6D	TO4E	XR0ZR	VP8STI	VP8SGI
W1AW/KH8	K1N	3D2C	VK0EK	S21ZBB	E30FB
ST0RY	TI9/3Z9DX	VK9MT	K5P	9U4M	TX3X
VU7AB	3Y0Z	3C0L	TX7EU	CE0Z	3C1L
TI9A	3D2CR	3B7A	K9W	VU7RI	6O7O
C21WW	CE0Z	T30GC	T30L	D68CCC	W8KKF/WP5
K5D		T33A		CY9C	